Norton Sound Salmon Research Initiative **FY2002 Request: $5,000,000**
Reference No: 33999

AP/AL: Appropriation
Category: Natural Resources
Location: Nome
Election District: Nome, Lower Yukon
Estimated Project Dates: 07/01/2001 - 06/30/2006

Project Type: Planning

Contact: Doug Mecum
Contact Phone: (907)465-6100

Brief Summary and Statement of Need:
The Federal Government will provide the department funding for research in the Norton Sound region to investigate management issues and declining salmon populations in this area.

Funding:

	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	Total
Fed Rcpts	$5,000,000						$5,000,000
Total:	$5,000,000	$0	$0	$0	$0	$0	$5,000,000

☐ State Match Required ☒ One-Time Project ☐ Phased Project ☐ On-Going Project
0% = Minimum State Match % Required ☐ Amendment ☐ Mental Health Bill

Operating & Maintenance Costs:

	Amount	Staff
Total Operating Impact:	0	0
One-Time Startup Costs:	0	
Additional Estimated Annual O&M:	0	0

Prior Funding History / Additional Information:

Chum salmon runs in portions of Norton Sound have been management concerns for many years. Commercial, sport and subsistence fishery restrictions and closures have been imposed in order to conserve fish for spawning escapements, but in some years salmon runs are below levels needed even for that primary conservation objective. Weak runs are also being experienced for other species, most notably pink salmon in odd numbered years, and coho salmon. The adult salmon escapement assessment program has been improved in Norton Sound during the last half of the 1990's, largely through cooperative projects conducted in partnership between Kawerak Inc., Sitnasuak Inc., Norton Sound Economic Development Corporation (NSEDC), Bering Sea Fisherman's Association (BSFA), the Bureau of Land Management (BLM), and the Alaska Department of Fish and Game(ADF&G). In addition, streamside incubation boxes have been installed in two rivers in the Nome area to help in the restoration of chum salmon.

While ongoing State and privately-funded salmon escapement enumeration and restoration activities would benefit from some supplemental funding, larger questions remain unanswered as to the causes of the salmon production shortages in Norton Sound, and the potential for restored productivity. This research initiative primarily seeks to advance understanding of the factors involved in Norton Sound salmon production through studies of juvenile salmon and freshwater environmental conditions.

Many of the large questions that remain unanswered regarding Norton Sound salmon production depend upon a better understanding of the marine phase of the salmon life cycle. Biological and environmental monitoring and research of the nearshore and offshore marine ecosystem relative to Norton Sound salmon is a large, expensive undertaking, and not within the typical scope of ADF&G research activities. The ADF&G recognizes the need for this monitoring and research to be done by other agencies, universities, or foundations. Dinkum-Sands funds have been granted to the University of Alaska for Bering Sea research, and ADF&G supports use of these funds to address these information gaps.

It is recommended that this research initiative be funded for a minimum of five years and consideration then be given to continuation in order to acquire a meaningful information baseline. This initiative would be implemented in a cooperative manner between Kawerak, Sitnasuak, BSFA, NSEDC, and ADF&G with a strong emphasis on local hire. This freshwater research component will complement the Bering Sea Research Program envisioned under the North Pacific Research Board. A framework for this research initiative as currently envisioned is as follows:

1) Norton Sound Salmon Escapement Assessment Supplemental Support

Funding for existing adult salmon escapement assessment projects in Norton Sound is inadequate to cover the full season of returns at proven projects. This would allow for enumeration of coho returns, which have seen increased utilization with the decline of the chum salmon resource. These projects are the basis of inseason management and could be further improved by hiring additional crewmembers on counting towers to eliminate subsampling daily passages, and with retention of crewleaders after the season to assist with initial data compilation and analysis. Replacement of worn equipment on a rotational basis would also be funded. This funding would also provide support for development of local expertise and experience with fisheries management and conservation techniques.

2) Norton Sound Chum Salmon Streamside Incubation CWT and Recovery

Chum salmon are currently released unmarked from streamside incubation boxes on two streams in the Nome area. This project would fund fin-clipping and coded-wire tagging (CWT) of these releases, and subsequent monitoring of returns in the area for marked fish. This information could provide insight into marine survival of these fish as an indicator stock for Norton Sound chum salmon. Start-up costs would include construction of a streamside incubation facility similar to one already operating at one of the two sites. The facility would provide increased productivity of the incubation site and a workspace for the tagging crews. This would also fund purchase of associated equipment for the tagging operations.

3) Northern Norton Sound Subsistence Harvest Research

This project would provide for an annual survey of Nome residents to estimate the harvest of salmon in the Nome Subdistrict, and the harvest of salmon by Nome residents in adjacent fishing districts. The current subsistence harvest monitoring system does not capture harvests from outside the Nome Subdistrict. Another significant problem is an unknown portion of the harvest is not enumerated in the permit system due to non-reporting and an incomplete understanding of the permit system.

4) Research and Biometrics Staff Support

A Fishery Biologist III would be hired and stationed in Nome to lead this research initiative for ADF&G, under the supervision of the AYK Regional Research Biologist in Anchorage. Additional biometric and research support in the region would be funded to support this research initiative and the ongoing cooperative projects. Currently there are no research positions dedicated to Norton Sound salmon.

5) Norton Sound Wild Juvenile Salmon Outmigration Studies

Freshwater production of salmon from selected streams may be indexed by sampling from inclined plane traps, providing an information link between parent escapements and subsequent adult returns. This project would attempt to index juvenile chum, and perhaps other salmon species, from a few index streams in Norton Sound. Such a project is logistically challenging because of ice breakup and high water conditions typical in the spring when juvenile salmon would be outmigrating.

6) Norton Sound Salmon Environmental Baseline Monitoring

A set of environmental measurements, such as air temperature, water flow, water temperature, rainfall, snow depth, and freeze depth would be recorded at standardized stations in Norton Sound as an informational baseline for the freshwater salmon environment.

7) Norton Sound Regional Planning Team Support

The Regional Planning Team (RPT) is responsible for setting policy for the management of the Norton Sound salmon restoration and enhancement program. A recent decline in State revenue has put support of the RPT in question. Funding at this level would support two meetings per year and allow pilot project research with small stock and habitat rehabilitation projects.

8) Norton Sound Salmon Habitat and Ecological Study

Habitat assessment and instream flow evaluation procedures will be applied to selected Norton Sound river systems to learn more about the freshwater production capacity of salmon and its relationship to the ecology of riverine habitats in the Norton Sound area. This information will assist in the evaluation of spawning and rearing potential of these systems, and will assist efforts to plan effective restoration and management activities. This assessment would also consider associated ecological observations, such as declines in other fish and bird species. Funding includes support for a Habitat research position in Nome to lead these efforts in partnership with local organizations.

9) Norton Sound Salmon Information Database

An electronic geographical information base (GIS) relevant to Norton Sound salmon would be developed, maintained, and made available to the general public and other research groups. This GIS database would bring together adult salmon escapement, juvenile salmon production, freshwater and marine environmental data into a common resource.